

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

INFORMATION PAPER

UPDATE ON THE WORK OF THE OTHER ADVISORY COMMITTEES

This paper provides a general overview of the work of the following committees in 2007:

- Advisory Committee on Animal Feedingstuffs (ACAF)
- Advisory Committee on Novel Foods and Processes (ACNFP)
- Committee on Toxicity (COT)
- Scientific Advisory Committee on Nutrition (SACN)
- Spongiform Encephalopathy Advisory Committee (SEAC)

Full details, including copies of agendas, minutes and papers are available at each committee website.

<http://acaf.food.gov.uk>

<http://www.acnfp.gov.uk/>

<http://www.food.gov.uk/science/ouradvisors/toxicity/>

www.sacn.gov.uk

<http://www.seac.gov.uk>

**Secretariat
December 2007**

ADVISORY COMMITTEE ON ANIMAL FEEDINGSTUFFS (ACAF)

1. The Advisory Committee on Animal Feedingstuffs (ACAF) held its 37th meeting in London on 6 March 2007. The Committee discussed the following matters:

Co-product Feeds and their Use – The Committee received a presentation from Robin Crawshaw on the use of co-products in animal feed. Mr Crawshaw explained to the Committee the wide range of products from the food, drink and biofuel industries that go into animal feed.

Regulating the Use of Coccidiostats and Histomonostats – The Committee considered the European Commission's intention to phase out the use of coccidiostats and histomonostats as feed additives by 1 January 2012. Their use would only be available on prescription after this date.

2. At its meeting on 5 June at the Sheraton Hotel in Edinburgh the Committee discussed the following matters:

The potential impact on the animal feed market of the increased production of biofuels – the Committee received a presentation from Julian Bell of the Scottish Agricultural College on the impact on the animal feed market from the increased production of biofuels. Members noted that biofuel production was beginning to have a significant impact on world food and feed markets.

Aquaculture – the Committee also received a presentation from Ralph Bickerdike of BioMar on aquaculture. Mr Bickerdike gave some background to the UK's aquaculture industry and outlined specific issues the industry was currently facing. The Committee were particularly interested in hearing how changes in the composition of fish feed were improving the sustainability of farmed fish for human consumption.

3. At its meeting on 11 September 2007 the Committee discussed the following matters:

The opportunities and implications of using co-products from biofuel production as feeds for livestock – the Committee continued its discussions on the impact on the animal feed market from the increased production of biofuels. Members were provided with a synopsis of a report prepared by ADAS and the University of Nottingham for the Home Grown Cereals Authority, the English Beef and Lamb Executive and the British Pig Executive. The Committee concentrated much of its discussion on the co-products of biofuel production that might be used as feeds for livestock.

Regulating the Use of Coccidiostats and Histomonostats – The Committee received an update from the Veterinary Medicines Directorate on possible future controls on coccidiostats and histomonostats.

The 40th ACAF meeting on **4 December** will be held in Aviation House London. There will be further discussions on the impact of biofuel on animal feed at the meeting.

ADVISORY COMMITTEE ON NOVEL FOODS AND PROCESSES (ACNFP)

4. The ACNFP met 5 times in 2007. The final meeting of the year was on 22 November.
5. The committee have discussed the following:
 - A review of Transformation-induced mutations in transgenic plants
 - An update on legislation on Nutrition and Health Claims
 - EFSA Statement on Antibiotic Resistance Marker Gene *npt II*
 - Transformation-induced mutations in transgenic plants
 - EFSA statement on the fate of recombinant DNA or proteins in GM feed
 - EFSA guidance document for the risk assessment of GM plants containing stacked transformation events
6. Applications for authorisation of the following as novel food ingredients have been considered:
 - Ice Structuring Protein from GM yeast
 - Refined Echium Oil
 - Glucosamine from *Aspergillus niger*
 - Baobab dried fruit pulp
 - Synthetic Lycopene
 - Phytosterols from Lipofoods
 - Astaxanthin rich oleoresin from *Haematococcus pluvialis* algae
 - Krill Oil
 - Noni Puree and concentrate
 - Phosphated Distarch Phosphate
 - Kiwiberry Concentrate
 - Beta-Glucan rich extracts from *Lentinus edodes*
 - Calcium L-methylfolate
7. No items were discussed which were of particular relevance to the ACMSF.
8. The Chair of the ACNFP; Professor Mike Gasson is also a member of ACMSF.

COMMITTEE ON TOXICITY (COT)

COT meeting held on 5th December 2006. The following topics were discussed:

9. Update Discussion Paper on the Cabin Air Environment, Ill-Health in Aircraft Crews and the Possible Relationship to Smoke/Fume Events in Aircraft

This was first discussed at the meeting in July 2006 and two primary objectives were outlined. Firstly, to evaluate the BALPA submission and, based on the data submitted by BALPA and that sourced by the secretariat, assess the risk of exposure of aircraft crews to OPs and oil/hydraulic fluid pyrolysis products in cabin air and determine whether there is a case for a relationship between exposure and the ill-health in aircraft crews. Secondly, to provide the DfT with appropriate advice on any further research required to evaluate this subject.

10. First Draft working paper on risk assessment of marine biotoxins of the okadaic acid, azaspiracid, pectenotoxin and yessotoxin in support of public health

Members advised on appropriate acute reference doses (ARfDs) for each biotoxin group.

11. First Draft working paper on a commercial survey investigating the occurrence of disinfectants and disinfection by-products in prepared salads

The COT had previously discussed the results of a study, which investigated the occurrence and formation of disinfectants and disinfection by-products in prepared salads, the study results did not indicate any cause for concern. Members discussed the study's methodology and focussed on why the salad leachate and not the salad leaves had been analysed. Following a series of validation studies, testing of the leachate was deemed to be the most suitable method to providing adequate detection limits whilst preventing break-up and break-down of the salad leaves. The assumption being that any compounds present on the salad leaves would leach out into the water when soaked. The basis for this assumption will be checked with the laboratory.

12. Nickel Leaching from Kettle Elements into Boiled Water

The Committee had discussed nickel leaching from kettle elements on a number of occasions and had concluded that further studies would be beneficial in order to more accurately replicate domestic kettle usage patterns for consumers. In 2006, the Scottish Executive commissioned further research. The preliminary results were largely negative and therefore the COT was asked to comment on the implications of the data and on whether there would be any value in proceeding with the analyses.

13. Mycotoxins in Cheese

The Committee was asked for its advice on risk assessment of mycotoxins in cheese and whether the provisional guidance raises any concerns for

the safety of consumers. After much discussion the Committee considered that the data available was insufficient to draw conclusions on the likelihood of mycotoxins being present in mould contaminated hard cheese, and therefore it was not possible to conduct a risk assessment for mycotoxins in recovered cheese.

COT meeting held on 6th February 2007 (incorporated a workshop on 7th February on Evolving Approaches in Chemical Risk Assessment)

The following topics were discussed:

14. FSA funded study investigating the developmental effects of dioxin (TCDD) in rats

The Committee discussed in closed session the results of this FSA-funded study which is not yet published. It was agreed that a COT statement would be published after the COT has concluded its evaluation and the research is published in the peer-reviewed literature.

15. Technical Guidance for derivation of DNELs and risk characterisation of non-threshold effects in the context of REACH

A Health and Safety Executive (HSE) representative gave a presentation on the background to REACH (Registration, Evaluation and Authorisation of CHemicals) and its Technical Guidance document, which is largely based on the technical guidance developed in support of Commission Directives 93/67/EEC and 98/8/EC and Commission Regulation (EC) No. 1488/94.

The COT was given the opportunity to comment on the preliminary draft of the Technical Guidance document on calculating DNELs/DMELs for substances subject to registration and exceeding the 10 tonnes per annum manufacture/ importation/usage threshold.

16. Potential future discussion items – horizon scanning

The following topics were discussed:

- Developmental Neurotoxicity
- Phytoestrogens
- Food Supplements in Pregnancy
- COM discussions on transgenerational effects of methylation
- Identifying emerging environmental contaminants
- Toxicology of tobacco products
- Progress on REACH
- Genetically engineered models
- Atypical shellfish toxins
- Lavender and Tea Tree Oil Shampoos
- Air fresheners and respiratory toxicity
- Vulnerable groups - It was commented that where there are data present to allow statements to be made, particular attention should be paid to vulnerable groups (e.g. infants, children, the elderly). In addition, the important periods of exposure should be clearly specified when stating the effects.

17. First draft working paper on the COT addendum to the joint COT/COC/COM statement on nanomaterial toxicology

In 2005 the COT, COC and COM published a joint statement on nanomaterial toxicology. The COT considered that information on medical applications of nanoparticles may help to identify potential areas of hazard and risk assessment for nanomaterials used in manufactured products.

A draft addendum to the Joint COT/COC/COM statement on nanomaterial toxicology had been prepared based on the basis of the Committee's discussions at its September 2006 meeting

COT meeting held on 20th March 2007. The following topics were discussed:

18. Effect of certain food colours and a preservative on behaviour in children research project results

19. First draft COT working paper on the FSA funded study investigating the developmental effects of dioxin (TCDD) in rats

At its meeting on 6th February 2007, the Committee was presented with draft papers summarising the results of an FSA funded study investigating the developmental effects of dioxin (TCDD) in rats. The Committee was presented with a draft working paper summarising the discussion and conclusions from the February meeting. Two additional reviews by experts in reproductive toxicology were provided to aid the Committee in assessing the data and drawing conclusions. Members were content that the independent reviews were consistent with the Committee's comments and conclusions from the February meeting.

20. Notes on the COT workshop on Evolving Approaches to Chemical Risk Assessment

On the 7th February 2007, the Committee held a workshop on Evolving Approaches to Chemical Risk Assessment. Abbreviated notes on the discussions during and after the workshop were provided to stimulate further discussion. Members were invited to give their perspectives of the workshop and give recommendations for how this information can be used to improve the Committee's risk assessments. These will be used to formulate a statement relating to the workshop.

21. Update discussion paper on the cabin air environment, ill-health in aircraft crews and the possible relationship to smoke/fume events in aircraft

COT meeting held on 15th May 2007. The following topics were discussed:

22. Reformulation of PAVA (nonivamide) as an incapacitant spray: additional data submitted by the Civil Defence Supply

The COT has previously provided advice on the health effects of pelargonyl vanillylamide (PAVA) when used as an incapacitant spray in

2002 and 2004. This compound is the synthetic equivalent of capsaicin (the active ingredient in pepper) and is a sensory irritant. The Civil Defence Supply (CDS) had proposed a reformulation of the product originally assessed by the COT. The COT had not been satisfied with an initial submission on this reformulation in October 2006 and had requested additional data, which was now available.

23. Code of Conduct of Observers

It had become apparent that there was a need to ensure that invited experts and the Secretariat were not inhibited from contributing to the work of the Committee. Members discussed a minor revision to the existing code to allow for this. The item was discussed in closed session as it was related Committee procedure.

24. Second draft COT working paper on the FSA funded study investigating the developmental effects of dioxin (TCDD) in rats

At the 6th February 2007 meeting, the Committee was presented with draft papers summarising the results of an FSA funded study investigating the developmental effects of dioxin (TCDD) in rats. This study was instigated to address limitations in the data used by the Committee to derive a tolerable daily intake (TDI) for dioxins in 2001. Members were asked to comment on the conduct, results and implications of the study. This was done with a view to formulating a statement for release when the study papers are published in a scientific journal.

25. Effect of certain food colours and a preservative on behaviour in children research project results

A draft statement had been prepared on the basis of the discussions at the previous meeting in March 2007.

26. Nickel leaching from kettle elements into boiled water

The Scottish Executive commissioned the Water Research centre - National Sanitation Foundation (WRC-NSF) to conduct research on the effect of nickel leaching from exposed nickel-plated heating elements in kettles during boiling to address COT concerns surrounding the applicability of results obtained previously. Members agreed that because the study showed no difference between the water boiled in nickel kettles and the controls, there would be no value in continuing with the study in its current form.

27. However Members were concerned that the study did not reflect domestic kettle usage patterns, as had been requested previously. The study was subsequently revised by undertaking a number of re-boiling tests to determine nickel concentrations when boiled water had stood in kettles; and the effect of re-boiling that water.

28. The Committee concluded that the results of this study indicated that nickel leaching from kettle elements into tap water is not a health concern for the majority of consumers. Since the WHO TDI is not considered protective for individuals who are pre-sensitised to nickel, a possible

reaction, such as flare-ups of dermatitis, cannot be excluded for nickel-allergic individuals using new kettles with exposed nickel elements.

29. First draft working paper on the COT workshop on Evolving Approaches to Chemical Risk Assessment

On 7th February 2007 the Committee held an open workshop on 'Evolving Approaches to Chemical Risk Assessment'. Members were provided with a first draft working paper summarising the workshops presentations, together with the Committee's discussions and conclusions.

30. There was further discussion regarding the use of lean body-mass when scaling between animals and humans. Members suggested that the implications of the distribution of lipophilic chemicals should be considered when the risks posed by these chemicals are assessed. A literature search for papers relating to the use of allometric scaling in the pharmaceutical industry was suggested, since this may indicate the utility of the technique. However, Members did suggest that pharmaceuticals are generally selected for their pharmacokinetic properties, hence would not necessarily be representative of the chemicals assessed by the Committee.

COT meeting held on 3rd July 2007. The following topics were discussed:

31. Effect of certain food colours and a preservative on behaviour in children research project results.

At its meeting in March 2007, the Committee considered the results of an FSA-funded study on the potential effects of certain food colours and a preservative on behaviour in children. A draft statement was discussed at the May 2007 meeting and a revised version subsequently considered by correspondence. A third draft based on Members comments had been prepared for discussion at the present meeting.

The Committee was informed that it is hoped that the finalised statement will be published to coincide with publication of a journal paper based on the results of the study at some time in July. However, if the paper is rejected by the Journal it has been submitted to, the Statement will be released as soon as it has been finalised.

It was also noted that the Food Standards Agency's Board is to discuss this issue at an Open Board Meeting in October, and the Agency has requested that the Chair of the COT attend this meeting.

This item was discussed as reserved business, as the Committee were considering unpublished research. The reserved section of the minutes will be published after the COT has concluded its evaluation.

32. Epidemiological studies of landfill sites and adverse birth outcomes

In 1998 and 2001, the COT advised on the findings of epidemiological studies of landfill sites and adverse birth outcomes. Following a request from the Environment Agency (EA) for further advice on this issue, the Health Protection Agency (HPA) had decided to prepare a position paper and, as an initial step, had drafted a detailed review of the studies of adverse birth outcomes in populations living near landfill sites.

33. The draft reviews together with two pre-publication papers provided by the Small Area Health Statistics Unit (SAHSU) were provided to the Committee for discussion. The COT was also invited to revisit its previous advice.
34. **Interdepartmental Group on Health Risks from Chemicals (IGHRC) Draft guidance document on “chemical mixtures: a framework for assessing risks”**
IGHRC produced a draft guidance document discussing the different types of mixtures for which UK government may need to conduct a risk assessment and the kinds of data that may be available for these mixtures. It described different approaches that have been used for mixture risk assessments and provided a framework in the form of a decision tree to help risk assessors consider the different issues that arise when carrying out a risk assessment for a chemical mixture.
35. The IGHRC were seeking comments from a range of Advisory Committees on the technical content and the applicability of the framework to the mixture situations faced by each Committee.
36. Overall, it was considered that the document would be applicable to evaluations undertaken by the COT and that it would be useful to apply some of the approaches in the next few years in order to further develop experience in this area. Combined assessment of chemicals established as being part of a common mechanism group is relatively simple, whereas evaluation of dissimilar compounds is more difficult, as a clear hypothesis is needed when determining which chemicals should be assessed together. The document will be revised following comments from other scientific advisory committees and should be published by the end of the year.
37. **Update discussion paper on the review of the cabin air environment, ill-health in aircraft crews and the possible relationship to smoke/fume events in aircraft**
At the May 2007 meeting Members were asked to consider the discussion paper under six main areas: 1) further discussion on the sensory irritant potential of air contaminants potentially present in commercial aircraft; 2) further consideration of neuropsychological effects reported in pilots and exposure to carbon monoxide; 3) aircraft air quality testing; 4) the epidemiology review produced by the DH Toxicology Unit; 5) a discussion on the meeting held to identify research possibilities, and 6) discussion on the draft working paper.
38. The Committee agreed the conclusions subject to inclusion of an appropriate statement regarding pragmatic approaches to avoiding incidents and greater clarification of the rationale regarding exposure monitoring and the approach to neuropsychological evaluation in pilots.

COT meeting held on 4th September 2007. The following topics were discussed:

39. Organophosphates and human health research projects

In 1999 the COT published a report entitled “Organophosphates,” which considered whether prolonged or repeated low level exposure to organophosphates, or acute exposures to organophosphates at levels insufficient to cause overt toxicity, can cause long-term adverse health effects. The COT report had drawn conclusions from the available data and made recommendations for further research to address outstanding issues.

40. The COT was asked to consider six research reports and advise on the significance of the findings reported; and on the extent to which the COT research recommendations had been addressed.

41. In addition, ten other research projects had been commissioned by the Government with relevance to the effects of organophosphates. Reports on these projects were also provided, and the COT was asked to advise on how these projects contributed to understanding of possible effects of organophosphate exposure on health in humans. Results were not available for all projects and in these cases, the Committee was asked to give advice on how the projects would be expected help to increase understanding of effects of organophosphates assuming that they achieved their objectives.

42. Members noted that other work had been published in the scientific literature and there would be a need to review all of the available research in order to advise on the current state of knowledge regarding organophosphates. However the Committee had been asked to review only the Government-funded projects at this time. The Committee considered each of the 16 research project in turn. It was noted that several of the reports made comments about the relative contributions of different sources of exposure to organophosphates or pesticides, which did not seem to be substantiated. The COT advice was reported to Ministers in October.

43. Updating the Code of Practice for Scientific Advisory Committees

The Committee was asked if it wished to respond to the consultation on the draft proposal to update this Code of Practice, and also to consider the implications of the changes for its working practices.

44. Evident toxicity as an endpoint in acute toxicity testing

The UK-led development of a fixed concentration procedure (FCP) guideline (TG 433) for testing chemicals for acute inhalation toxicity within the OECD Test Guideline programme had been severely hindered by the reluctance of some OECD member states to accept evident toxicity as a reliable endpoint in acute inhalation toxicity studies. This difficulty was unexpected, given the acceptance of the principle of evident toxicity indicated by the adoption of an analogous guideline (TG 420) for testing acute oral toxicity.

45. Members were asked for their views and suggestions on the work planned to support the international acceptance of evident toxicity as an endpoint in acute inhalation studies.
46. Members were informed that a survey was being conducted to determine the industry perspective on selection of tests with lethality or evident toxicity as endpoints.

SCIENTIFIC ADVISORY COMMITTEE ON NUTRITION (SACN)

Work highlights for SACN during 2007 included the following:

47. National Diet and Nutrition Survey (NDNS)

The Committee have conducted an analysis of the nutritional well-being of the UK population, summarising the findings in a synthesis paper. This has now been finalised and is expected to be published in early 2008.

48. Selenium

SACN have undertaken a review of the evidence on selenium and health. They have concluded that although there is evidence of a decline in selenium intake and status in the UK, the health consequences of this are currently unclear. The Committee agreed that this issue should be reviewed when there is more current intake/status data available for the UK population and when ongoing studies and trials have been published. The report is expected to be published shortly.

49. Maternal and Child Nutrition

A joint subgroup of SACN members and representatives of the Royal College of Paediatrics and Child Health (RCPCH) has been set up to consider the suitability of the WHO Multicentre Growth Standards for use in the United Kingdom. The report 'Application of WHO Growth Standards to the UK' has now been published.

50. Vitamin D

SACN have now published an update paper on vitamin D that highlights the re-emergence of rickets in population subgroups and the high prevalence of low vitamin D status throughout the UK population.

51. Nutrition Professions Confederation (NPC)

A Nutrition Professions Confederation working group has been set up to address the need for coherence between the different professional groupings working in the areas of diet, nutrition and activity.

SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE (SEAC)

52. Over the past year the Spongiform Encephalopathy Advisory Committee (SEAC) has at the request of Defra, DH, FSA, SE, WAG and the NIE, given advice on transmissible spongiform encephalopathies (TSEs) on a wide range of issues. The main highlights from the past year (Nov 06 – Nov 07) can be broadly categorised into three groups.

53. SEAC has assessed CJD and Public Health by examining the current and future profile of the vCJD epidemic. The committee has discussed methods to evaluate new surgical instrument decontamination technologies to ensure effective infectious agent removal; reviewed new information on the potential risks of vCJD transmission via endodontic dentistry; and considered information in relation to the exposure to vCJD infectivity in blood, blood products and from medical implants containing bovine material.
54. The Committee has considered Food Safety in relation to the detection of abnormal prion protein in tissues of cattle with BSE. It has assessed the science of the newly identified forms of BSE, and considered potential risks to human health of BSE, should it be present in sheep, and of atypical scrapie in sheep and FSA contingency policies in relation to these issues. The Committee has also commented on the strategic goals of the European Commission's TSE Roadmap which aims to maintain the current level of consumer protection.
55. On Animal Health and Animal By-Products SEAC has reviewed data on the replacement of the Over Thirty Month Rule with BSE testing of cattle; investigated the risks associated with potential changes to the enforcement in abattoirs and cutting plants of specified risk material controls that remove tissue considered to be of higher risk of carrying TSE infectivity; and reviewed information and research on atypical scrapie and the new strains of BSE.